SulTRAC

October 8, 2009

Mr. Sam Chummar
Remedial Project Manager
U.S. Environmental Protection Agency
77 West Jackson Boulevard (SR-6J)
Chicago, Illinois 60604

Subject: **Technical Review Comments on "Phase II Remedial Investigation Work Plan" Version 3 (Dated September 23, 2009) Former Plainwell, Inc. Mill Property, Plainwell, Michigan Contract No. EP-S5-06-02, Work Assignment No. 041-RSBD-059B**

Dear Mr. Chummar:

SulTRAC has reviewed the above-referenced document as part of its oversight activities for the former Plainwell Mill property in Plainwell, Michigan. The document is dated September 23, 2009, and was prepared by Conestoga-Rovers & Associates, Inc., for Weyerhaeuser Company (Weyerhaeuser), the responsible party for the site. The document contains the rationale for the proposed Phase II remedial investigation to be conducted at the site.

SulTRAC reviewed the document to assess its technical adequacy and to evaluate whether U.S. Environmental Protection Agency (EPA) comments transmitted to Weyerhaeuser on May 23, 2008, and August 24, 2009, had been adequately addressed. SulTRAC's technical review comments on the document are enclosed.

If you have any questions about this submittal, please call me at (312) 201-7491.

Sincerely,

Jeffrey J. Lifka
Project Manager

Enclosure

cc: Norvelle Merrill-Crawford, EPA Contracting Officer (letter only)
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ENCLOSURE

TECHNICAL REVIEW COMMENTS ON
"PHASE II REMEDIAL INVESTIGATION WORK PLAN"
VERSION 3 (DATED SEPTEMBER 23, 2009)
FORMER PLAINWELL INC. MILL PROPERTY
PLAINWELL, MICHIGAN

(Eight Pages)

TECHNICAL REVIEW COMMENTS ON THE PHASE II REMEDIAL INVESTIGATION WORK PLAN VERSION 3 (DATED SEPTEMBER 23, 2009) FORMER PLAINWELL, INC. MILL PROPERTY PLAINWELL, MICHIGAN

SulTRAC has reviewed the above-referenced document as part of its oversight activities for the former Plainwell Mill property in Plainwell, Michigan. The document is dated September 23, 2009, and was prepared by Conestoga-Rovers & Associates, Inc., (CRA) for Weyerhaeuser Company (Weyerhaeuser), the responsible party for the site. The document contains the rationale for the proposed Phase II remedial investigation (RI) to be conducted at the site. SulTRAC reviewed the document to assess its technical adequacy and to evaluate whether U.S. Environmental Protection Agency (EPA) comments in EPA's letters to Weyerhaeuser dated May 23, 2008, and August 24, 2009, had been adequately addressed. SulTRAC's general and specific technical review comments on the document are presented below.

GENERAL COMMENTS

1. Additional samples are required in the undeveloped areas of the Plainwell site, specifically in the wooded area of Area 1 and the south parking lot of Area 3. While Weyerhaeuser contends that it "does not believe there is evidence that suggests environmental impacts exist within the undeveloped portions of the Site," this claim seems based primarily on examination of aerial photographs. Even with the recently uncovered aerials that extend the period of time covered by such photographs, these photographs provide limited information, particularly in the wooded area of Area 1. Also, the proposal of only two test pits in the south parking lot will prohibit any statistical analysis in this area if it becomes necessary to consider the area as its own exposure area. Therefore, additional sampling locations are required in both the wooded area and the south parking lot, as discussed below.

   With regard to the wooded area, while the available aerial photographs do not show evidence of environmental impacts (e.g., large excavations), information obtainable from these photographs is significantly limited in this area. The trees present in the wooded area prevent any substantive view of the land surface in this area. Limited excavation, dumping, or other activities could have occurred in this area without indication on aerial photographs. Additionally, the wooded area seems a likely site for future residential development. Four borings may not adequately describe the contamination that may be encountered during future development.

EPA's letter of May 23, 2008, requires sampling in accordance with the Michigan Department of Environmental Quality (MDEQ) *Sampling and Statistics Training Materials for Part 201 Cleanup Criteria* (S3TM). This guidance recommends a minimum of nine randomly selected sample locations per exposure unit. Although only a part of Area 1 at the Plainwell site, the wooded area is expected to be treated as a distinct exposure area in the future risk assessment. The wooded area covers about 4.5 acres. According to MDEQ's S3TM (see Table 2.1), the wooded area would qualify as a "large" site and should be characterized with grid intervals (GI) of 30 or more feet. Even with a GI of 100 feet, approximately 15 sampling locations would be required for the wooded area. The number of samples proposed for the wooded area should be increased and selected in accordance with MDEQ's S3TM, as previously requested by EPA. Samples should be collected at these locations as described in Table 5.1 (see Specific Comments 15 and 16 regarding Table 5.1). One correction regarding specification of the wooded area borings is necessary: Table 5.1 specifies collection of a surface soil sample at only one of the four boring locations; but because residential exposure to surface soil is considered a potential exposure pathway, surface soil samples should be collected at each boring location.

With regard to the south parking lot, one additional test pit location will be sufficient. Presence of three test pit locations will allow computation of minimal statistics for this area if it is considered a separate exposure area. Contrary to the summary of sampling activities presented in Table 5.2, a surface soil sample should be collected in all three test pits to allow computation of minimal statistics. Also, see Specific Comments 15 and 17 regarding Table 5.2.

2. As discussed in Section 3.5.1, the work plan proposes to eliminate consideration of potable groundwater use by seeking deed restrictions limiting groundwater use at the site. This approach is unacceptable for several reasons. First, the deed restrictions have not been obtained as of this time. To assume these will be obtained is not health protective. Second, even if obtained, any such deed restrictions may be reconsidered in the future based on changes in policy, government figures, or other reasons. At a minimum, quantitative consideration of potable groundwater use (in other words, ingestion, dermal contact, and inhalation exposure pathways) must be included in the human health risk assessment (HHRA) in order to document the need for any deed restrictions. Section 3.5.1 and Figure 3.4 (the HHRA conceptual site model [CSM]) should be revised to clearly state that potable groundwater use will be quantitatively evaluated in the HHRA.

3. For determining actual soil intervals where samples will be collected for laboratory analysis, sampling procedures described in sampling programs 1 through 3 include factors such as depth of fill, depth to the water table, and field observations. Given this approach, soil samples must be containerized at every 2-foot interval as drilling progresses so that the samples to be sent for laboratory analysis can be selected after completion of the borehole or encounter with the water table.

4. Some inconsistencies regarding sampling details are evident among the text (Sections 5.2 through 5.5), the figures (Figures 5.1 through 5.4), and the tables (Tables 5.1 through 5.4). For example, in some cases, the text refers to the sampling program to be used but does not specify whether surface soil samples will also be collected, as indicated in the tables. In some cases, the text states that surface soil samples will be collected but does not specify how many or at which locations. For purposes of preparing these comments, Tables 5.1 through 5.4 are assumed to provide the most complete sampling details, and the text and figures should be revised to be consistent with the tables (including any comments pertaining to these tables).

5. Inconsistencies are evident among some of the figures. For example, Figures 3.1 through 3.3 (showing previous sampling locations) do not all show the same locations. Figure 3.3 (emphasizing Area 3) shows more previous locations in Area 2 than does Figure 3.2 (emphasizing Area 2 locations). Figures 3.1 through 3.3 should show the same previous sampling locations and features. The consistent locations should then be carried forward to Figures 5.2 through 5.4. In addition, Figures 3.1 through 3.3 should be re-titled as "previous" or "historical" sampling locations.

SPECIFIC COMMENTS

1. **Section 1.0, Page 1, Second Bullet.** The second bullet refers to the previous version (July 2009) of the RI/Feasibility Study (FS) work plan. The text should be revised to refer to the September 2009 version (Version 3).

2. **Section 3.5.1, Pages 19 and 20.** Section 3.5.1 discusses the human health CSM. The text states that "a non-potable groundwater condition has been applied to the Site in the development of the CSM (see Figure 3.4) as deed restrictions limiting groundwater use will be sought for the Site." As stated in General Comment 2, this is not acceptable. Section 3.5.1 (and Figure 3.4) should be revised to (1) clearly state that potable groundwater use will be quantitatively evaluated in the HHRA and (2) include potable groundwater exposure pathways (ingestion, dermal contact, and inhalation) under "Future Conditions" exposure pathways.

3. **Section 4.3.6, Page 26, Paragraph 3.** Section 4.3.6 discusses background information and its use in the remedial investigation. The text states that site-specific background soil quality will not be determined as part of the RI at this time. However, the text continues with "After completion of the proposed activities, the need for further collection of background data will be assessed and subsequently proposed to the U.S. EPA for approval." These statements raise a series of concerns.

   First, it is not known under what conditions "further collection of background [soil] data" will be proposed. Without collection of site-specific soil background samples, the HHRA will be limited to comparisons of metals concentrations measured at the site to default statewide values. Comparison to site-specific soil background results is generally preferred over comparison to default results. Collecting site-specific soil background samples only (or primarily) because any default comparisons do not yield favorable (or expected) results is not a favorable strategy. Second, EPA does not want the HHRA delayed unreasonably by need to collect site-specific background samples that could have been collected during the initial mobilization. Given the general preference for use of site-specific background results (for example, use here of site-specific background groundwater results), and especially considering that site-specific background conditions may differ from the State's default conditions, the work plan should be revised to include collection of site-specific background soil samples. Any explanation for delay in collection of site-specific background samples should clearly identify the conditions under which collection of these will be proposed.

4. **Section 5.1.2, Page 28, Paragraph 3.** The text discusses the soil sampling program to be implemented during the Phase II RI. The text states that "Surficial soil samples will be collected to determine the quality of surficial soils across the Site." However, soil sampling programs 1 and 2 described in the following paragraphs do not include surface soil sampling from the 0- to 1-foot depth. The text should be revised to specify at which locations surface soil samples will be collected or to state that surface soil samples will be collected at specified locations shown in Tables 5.1 through 5.3.

5. **Section 5.1.2, Page 28, Last Bullet.** The text discusses soil sampling program 2. The text states that "If no impact is noted, a discrete soil sample will be collected from 0 to 2 feet below the interface of the vadose and saturated zone." The text should be revised to state that a discrete sample will be collected from 0 to 2 feet *above* the interface of the vadose and saturated zones. This correction should appear in all instances of describing sampling program 2 in text and tables.

6. **Section 5.1.4, Page 29, Paragraph 3.** The text discusses vertical aquifer sampling (VAS). The text states that the two VAS locations are based on historical impacts, current borehole logs, and proximity to the Kalamazoo River. It appears that adequate historical information is in Area 2 (the proposed VAS location near MW-4); however, previous sampling locations are not shown consistently on Figures 3.2 and 3.3, and on Figures 5.3 and 5.4 (see general comment 5). These figures should be checked for accuracy so that the actual previous sampling locations are shown to support this proposed sampling location. With respect to the proposed VAS location in Area 1 (in Lagoon J), the historical data used to support this location are not clear. Figures 3.1 and 5.2 indicate that the only temporary wells in the former lagoon area were installed in Lagoon L, and the only other groundwater samples collected near the lagoons were from wells MW-11 and MW-12. The work plan should state specifically which previous sampling locations were used to select Lagoon J as the location for proposed well MW-13 and VAS location VA-1.

7. **Section 5.1.4, Page 30, Paragraph 0.** The text discusses collection of groundwater samples during VAS. The text states that VAS samples will be field filtered for metals. Moreover, the note on Table 5.4 states that VAS sampling will not be conducted using low-flow methodology, and samples will be field filtered for metals analysis. Because groundwater samples collected from monitoring wells will be collected using low-flow sampling and the samples will not be field filtered, it would be more appropriate to use consistent sampling methodology (low-flow sampling and unfiltered samples) during VAS. If there is technical justification for not using low-flow sampling during VAS, that

information should be presented in the work plan and filtered and unfiltered samples should be collected during VAS. This would allow a more accurate comparison of groundwater quality among samples collected from monitoring wells and samples collected during VAS.

8. **Section 5.3, Page 31, Paragraph 3.** The text discusses the sampling activities to be conducted in Area 1. The subsequent bullets should either state the proposed depth of soil borings and refer to specific locations, as in the discussion of Area 3 sampling activities, or refer to the appropriate table (Table 5.1 in this case) for this information. Similar detail should also be included in Section 5.4 (Area 2) under the "Soil Sampling" paragraph.

9. **Section 5.3, Page 32, "Groundwater Investigation".** The fourth bullet states that soil samples will be collected during installation of the new monitoring wells to characterize potential soil impacts. The text should be revised to specify the specific soil sampling program to be used for collection of these samples.

10. **Section 5. 4, Page 33, Bullets 4 and 5.** The text states that collection of soil samples during the installation of wells MW-16 and MW-17 will follow the procedures outlined in soil sampling program 2. Soil sampling program 2 does not include surface soil (0 to 1 foot below ground surface [bgs]) samples, but Table 5.2 indicates that a surface soil sample will be collected at MW-16. The text should be revised to match Table 5.2.

11. **Section 5.5.1, Page 35, Paragraph 3.** The text refers to Figure 3.5 and a historical exceedance at location SGWB10. Given the area discussed, it appears that the text should be revised to refer to Figure 3.3 and historical location SGWB3. The text should be checked for accuracy.

12. **Section 5.5.1, Page 36, Bullet 2.** The text discusses collection of groundwater samples at existing and newly proposed monitoring wells. The text lists well MW-19 for sampling in Area 3A; however, this well should be discussed in Area 3D instead.

13. **Figure 3.4.** Figure 3.4 presents the human health CSM. Figure 3.4 should be revised consistent with General Comment 2 and Specific Comment 1 to identify potable groundwater exposure pathways as "potentially complete exposure pathways." Figure 3.4 should also be revised to clarify that soil and groundwater are not in themselves primary sources. In fact, soil and groundwater have been contaminated by historical milling operations. This situation should be noted in Figure 3.4.

14. **Figure 5.1.** Figure 5.1 presents the proposed site-wide Phase II sampling locations. Several problems with this figure are evident. First, the sampling locations do not match those presented in Figure 5.2, which is titled "Area 1 Proposed Phase II Sample Locations." Any inconsistencies between Figures 5.1 and 5.2 should be resolved. Second, the two proposed monitoring well locations are not provided with an identifier. These two wells should be identified as wells MW-13 and MW-14. Finally, at the two proposed VASs, the VAS symbol is difficult to read clearly because it is overlapped by the monitoring well symbol. The difficulties raised by overlapping symbols should be resolved.

15. **Tables 5.1, 5.2, and 5.3.** Tables 5.1, 5.2, and 5.3 present summaries of the proposed sampling activities for Areas 1, 2, and 3, respectively. All three tables employ footnote "(6)," which states "Sampling Program 2 – If no impact noted, a discrete soil sample will be collected from 0 to 2 feet below the interface of the vadose zone and saturated zone. If impact noted one soil sample will be collected within 2 to 10 feet bgs and a third sample collected from 0 to 2 feet [below the interface of the vadose zone and saturated zone]." This note is acceptable with one exception: the discrete sample should be collected from 0 to 2 feet *above* the interface of the vadose zone and the saturated zone. Tables 5.1, 5.2, and 5.3 (and associated text as necessary) should be revised accordingly.

16. **Table 5.1.** The following comments apply to Table 5.1:
    - The locations specified do not match the locations shown in Figure 5.2.
    - Surface soil samples should be proposed for all borings located in the wooded area.
    - The VAS laboratory analysis should include unfiltered metals (see previous comments).

17. **Table 5.2.** The following comments apply to Table 5.2:
    - For the Mill building samples, the "Designation" column should state "TBD" if these locations will be determined based on a field inspection; otherwise, the sample locations should be shown on Figure 5.3.
    - Surface soil samples should be proposed for all four borings located near the former transformer pad.
    - A surface soil sample should be proposed from the boring for MW-17.
    - A surface soil sample should be proposed from test pit 201.
    - The VAS laboratory analysis should include unfiltered metals (see previous comments).

18. **Table 5.3.** The following comments apply to Table 5.3:

- Collection of only one surface soil sample is proposed from locations SB-301, SB-302, SB-321, and MW-18. Surface soil samples should be collected at each of these locations.

- The table uses "up to" to describe the number of surface soil samples to be collected at the coal pile and former coal tunnel areas. The table should be revised to state "a minimum of" rather than "up to."

- The total number of sampling locations shown for the former coal tunnel should be five instead of four because five borings are proposed.